

ELECTROCHEMICAL CELL PRESSURE REGULATING SYSTEM AND METHODS OF USING THE SAME

Abstract of Disclosure

Disclosed herein are electrochemical cell systems, pressure control systems, and methods for operating those systems. In one embodiment, the electrochemical cell system comprises: an electrochemical cell stack; a phase separation apparatus in fluid communication with the electrochemical cell stack; a water discharge in fluid communication with the phase separation apparatus; a first flow control device and a second flow control device disposed in fluid communication between the phase separation apparatus and water discharge; and a control device in operable communication with a sensor, the first flow control device, and the second flow control device. In one embodiment, the pressure regulating system comprises: means for generating hydrogen; means for sensing a liquid level within a phase separation apparatus disposed in fluid communication with the means for generating hydrogen; means for regulating the liquid level within the phase separation apparatus disposed in operable communication with the phase separation apparatus; and means for maintaining a system pressure in the hydrogen gas generator system within a selected range upon release of liquid from the phase separation apparatus.

Figures